ANALOX 5

Carbon Dioxide Detector

Installation and Operating Guide

Standard Unit

Analox Sensor Technology Ltd
Units 4 & 5, Wainstones Court,
Stokesley Industrial Park,
STOKESLEY.
Cleveland.
TS9 5JY

Tel : (+44) 01642 711400
Fax : (+44) 01642 713900

We are delighted to welcome you as a user of the Analox 5 Carbon Dioxide Monitor.

The following guide should assist you to easily install your Analox 5

However…………….

IF YOU EVER NEED US

ANALOX 5 HELP LINE

01642 711400

LIST OF CONTENTS

*** IMPORTANT NOTES ***

1   The Analox 5 must be installed according to these instructions which should be read entirely before commencing installation.

2   For your convenience the remote alarm repeater is pre-wired to the Analox 5 sensor unit.

3   If you need to disconnect the cable for ease of installation **DISCONNECT FROM THE REMOTE REPEATER END.**

4   The system **MUST NOT** be switched on until all connections have been correctly made.

5   We do not recommend you access the main unit. Potentially lethal voltages exist within the instrument. It should only be opened by a Qualified Technician, and must be isolated from the electrical supply before opening.

6   The Analox 5 does not require routine maintenance. All you need to do is to check that the green light is flashing and press the mode button periodically to make sure that the horn and alarm lights are functioning.

---

1 PACKAGING CONTENTS CHECK

The following items are enclosed:

a) Analox 5 main unit, with fitted power lead to a plug

b) User Manual for Standard Analox 5

c) Test Certificate

d) Rawl Plugs and Screws for Wall Mounting

Options:

i) Alarm Repeater and 8 metres of interconnecting cable connected to the Analox 5.
ii) Relay Terminal Box
iii) 2 x Warning Labels

2 ABOUT THE ANALOX 5

The Analox 5 CO_2 Detector unit is designed to detect the presence of Carbon Dioxide in ambient air for the protection of people in confined spaces.

The monitor provides audible and visual indication of potentially dangerous levels of CO_2 in the air surrounding the instrument. The instrument uses an Infra Red detector system together with state of the art technology, in an IP65 splash proof housing and is designed to provide long, trouble free service, with minimum maintenance. The Alarm Repeater mimics the status indicators on the main Analox 5 enclosure. It also provides a push-button which operates in the same manner as the Mode switch on the Analox 5.

If you have more than one entrance to your store room you may need more than one remote repeater. Up to three repeaters can be daisy chained (one repeater linked to another) covering up to three entrance doors.

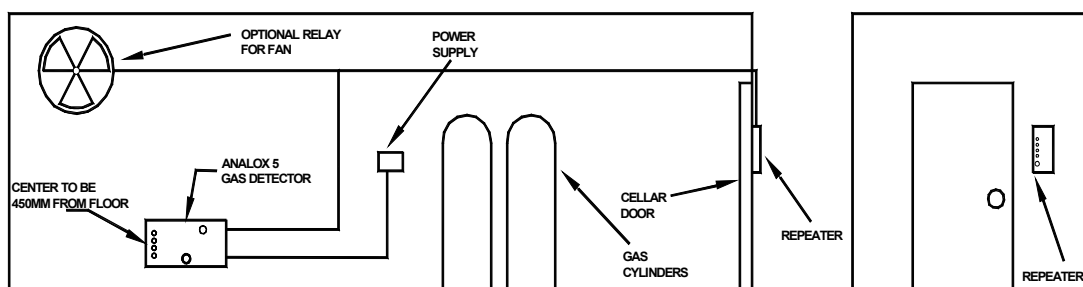Optional items fitted to or supplied with the unit may include the following:

a) Extra Remote Alarm Repeaters
b) Oxygen sensor
c) A medium duty relay

3 INSTALLATION

3.1 WALL MOUNTING

The Analox 5 should be mounted onto a wall using the mounting strips attached to the unit. Rawl plugs and screws are provided for this purpose. It is not necessary to dismantle the Analox 5 main unit in any way prior to installation. You need to ensure the mains plug fused at 5amp is in easy reach of a power socket.

Attach the main unit to the wall 450mm from the floor as close to the valves and manifolds as possible.

An 8 metre 8 core cable is pre-wired to the Analox 5 and has a remote repeater pre-attached.

Run the remote cable to the outlet door safely securing the cable with cable clips.

3.2 ALARM REPEATERS

The remote repeater should be located at eye level and attached to the outside or immediately inside the access door.

If you need to disconnect the repeater, reconnection is in one of the following ways:-

To connect a hard wired repeater:

1   Disconnect the supply from the Analox 5.

2   Open the Alarm Repeater unit by removing the 4 screws in the rear of the case and carefully pulling the case apart. The connecting wires from the Analox 5 pass through one of the cable glands on the Alarm Repeater.

3   Reconnect the Alarm Repeaters as detailed below.

Remote Unit Terminal No	Supplied Cable Core Colour
1	Black
2	White
3	Red
4	Blue
5	Yellow
6	Green
7	Orange
8	Brown

4   Replace the case of the Repeater, insert the 4 screws, and mount it in the desired position

5   Restore power to the Analox 5. Press the switch on the Repeater once, and ensure that the four indicators flash. Note that in the presence of a genuine alarm, the test feature is disabled.

To connect and disconnect a "Quick Connect" repeater

1   Disconnect the supply from the Analox 5.

2   Insert the connector on the end of the wire into the socket on either side of the alarm repeater.

3   Restore power to the Analox 5. Press the switch on the Repeater once, and ensure that the four indicators flash. Note that in the presence of a genuine alarm, the test feature is disabled.

3.3 ALARM RELAY OUTPUT MODELS

You may have ordered your Analox 5 with a relay. The relay contacts are 'Volt-Free' single pole Changeover and are rated 250vAC/30vDC 2 Amps. The relay is non-latching. This means the relay will only initiate when gas is present.
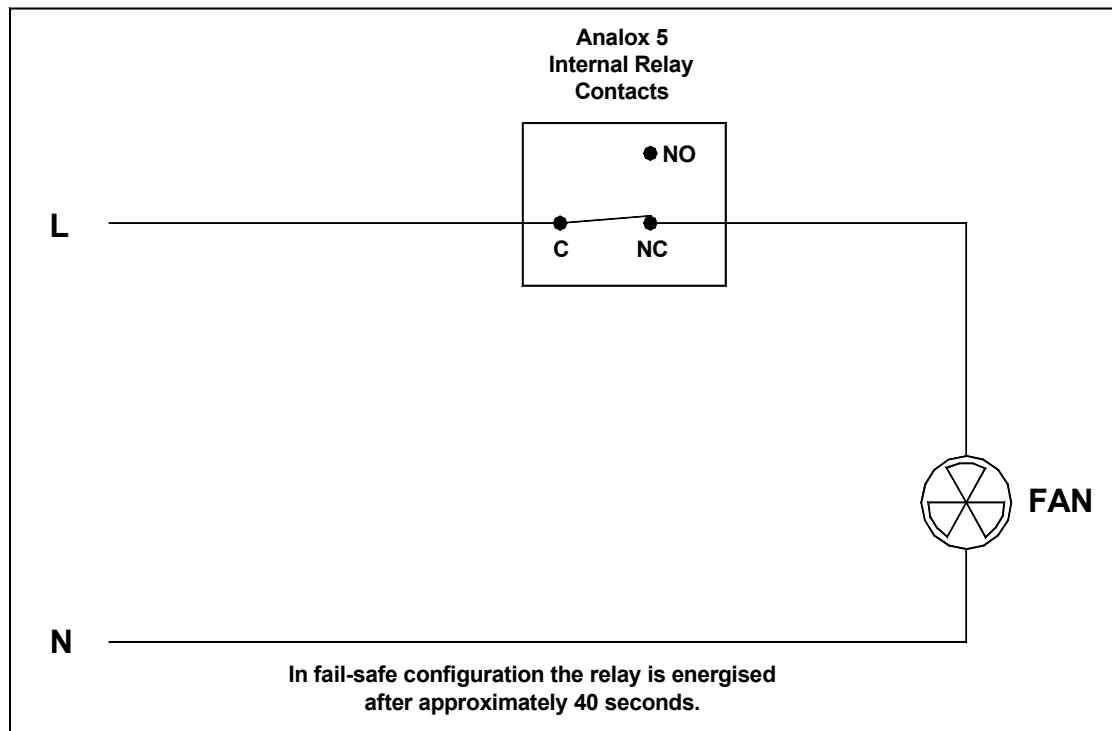
A pre-wired junction box is supplied with the Analox 5 main sensor unit. There is no need to open the main sensor unit. With all power isolated, make wiring connections to the Relay Terminal Box. The table below shows the functions of each terminal, and there is a drawing inside the terminal box to provide additional assistance.

Relay Terminal Box Terminal Number	Function
1	Relay 1 Common
2	Relay 1 Normally Open
3	Relay 1 Normally Closed
4	Spare
5	Relay 2 Common
6	Relay 2 Normally Open
7	Relay 2 Normally Closed

Ensure that any cable connected to these terminals is rated to suit the external equipment you wish to connect.

After completing wiring, ensure that the terminal box cover is replaced.

The drawing below details how the relay should be connected.

**Analox 5
Internal Relay
Contacts**

NO

L

C   **NC**

FAN

N

**In fail-safe configuration the relay is energised
after approximately 40 seconds.**

4   OPERATION

When mains power is first applied to the Analox 5, it requires a period of approximately 40 seconds to stabilise. During this period, The 'Good/OK' and 'Fault' status indicators will be turned on. The 'Good/OK' status indicator will flash briefly every few seconds, indicating normal operation and after the initial stabilising period has expired, the 'Fault' status indicator will turn off. The Analox 5 will then be in its normal operating condition. During normal operation, the 'Good/OK' green light will flash on/off, thus indicating that the system is operating correctly.

The green light status indicator on any Alarm Repeaters will also flash on and off.

5   ALARM INDICATIONS

If the Analox 5 detects a CO_2 concentration which exceeds the first alarm level, then the red 'Alarm 1' indicator will begin to flash and the buzzer will sound.

If the measured concentration of CO_2 continues to rise above the second alarm level, then the red 'Alarm 2' indicator will also begin to flash and the pace of the buzzer will increase. This condition will be repeated on any Alarm Repeaters.

The alarms are self-cancelling when the CO_2 level falls below the alarm limits.

5.1   LAMP AND ALARM TEST

Momentarily pressing the 'Mode' button on either the Analox 5 or any Alarm Repeaters, in the absence of any alarm conditions, causes a lamp and alarm test to be performed. The indicator lamps will flash 4 times, together with the alarm buzzer.

5.2   FAULT CONDITIONS

During normal operation, the instrument carries out a continuous self-test procedure. As long as the green light is flashing, the instrument is working.

1   If there are no indicator lamps lit on the Analox 5, check that power is connected and that the fuses are OK.

2   If the 'Good/OK' indicator is permanently on, contact your Service Engineer.

3   If the fault light is illuminated and the buzzer is sounding the unit needs attention and you should contact your Service Engineer.

6   TECHNICAL SPECIFICATIONS

CO_2 Range	0.1-5%
Accuracy	At Zero +/-2% Full Scale (FS) at constant temperature and pressure (CTP) At Full Scale +/-3% FS at CTP
Response Time	30 Seconds to T90
Oxygen Range	0.1 to 25%, or 1-100% when fitted
Operating Temperature	-10 to 60°C
Temperature Effect	<0.1%FS/°C
Warm Up Time	40 Seconds
Orientation	Not Sensitive
Weight (without cables)	Analox 5 600g Remote Alarm Repeater 150g
Dimensions (whd)	Analox 5 185 x 80 x 85mm (including flow adapter) 185 x 115 x 85 (with O2 Sensor) Repeater 65 x 120 x 40mm Relay Terminal Unit 80 x 100 x 55mm
IP Rating	Analox 5 IP65 Repeater IP40 Relay Terminal Unit IP65
Sensor Type	Analox LP Infra Red, featuring microprocessor based compensation for temperature effects and IR source ageing
Display	Optional 4 digit Liquid Crystal Display
Alarms	2 x CO_2 Visual Indicators 1 x System Fault Indicators 1 x Status Indicator 1 x Optional Oxygen Indicator Common Audible Alarm
Relay Contacts	2 x Optional Volt-Free single pole Changeover rated 250vAC/30vDC 2 Amps. (Only one contact if oxygen sensor specified)
Power Source *Note instrument will be factory set to one of these ranges*	230V AC 50/60Hz, CAT II 110V AC 50/60Hz, CAT II 24V DC
Insulation	Reinforced Insulation equivalent to Class II IEC536
Power Consumption	Less than 5W
Internal Fuse	200mA, T rating, 250V